

REMARKS

This Amendment is filed with a Request for Continued Examination (RCE) and the required fees.

Claims 1-8 and 10-24 are pending. By this Amendment, claim 1 is amended. The amendment is supported by the specification and the originally filed claims. In particular, claim 1 was amended to recite that "polymer A) is a CTFE copolymer with one or more comonomers selected from the group consisting of: ..." No new matter is added.

Claims 1-24 are rejected under 35 USC 103(a) as being obvious over Mehan (U.S. Patent No. 5,468,782) and Scoggins et al. (U.S. Patent No. 3,767,634) or Nakagawa et al. (U.S. Patent No. 4,513,129) or Abusleme et al. (U.S. Patent No. 6,391,975). This rejection is traversed.

Applicants note that the E-CTFE copolymers of Mehan are excluded from the present claims. In particular, claim 1 recites that "polymer A) is a CTFE copolymer with one or more comonomers selected from the group consisting of: ..."

The presently claimed invention is directed to "[f]oamable compositions, comprising: A) 50-99.9% by weight of a chlorotrifluoroethylene (CTFE) polymer ...; and B) 0.1-50% by weight of a nucleating agent; wherein said foamable compositions do not contain any other foaming agents ..." (claim 1) (emphasis added). Applicants respectfully submit that Mehan does not "expressly teach[es] foaming without additional foaming agents (column 5, lines 41-46)" as asserted by the Examiner in note 11 of the July 28, 2005 Advisory Action. In contrast, Mehan merely discloses the following:

Generally, the presence of the fine particles of PTFE will result in some degree of foaming, even when no positive steps are taken to

cause foaming. Preferably, positive steps are taken to foam the composition as it is melt-extruded, using a foaming agent which is incorporated in the composition and decomposes into a gas as the composition is extruded, and/or a gaseous foaming agent which is injected into the composition as it is being extruded, in known manner.

(Mehan, column 4, lines 43-51) (emphasis added). Therefore, Applicants respectfully submit that Mehan discloses that in order to have a complete degree of foaming, the additional foaming agent is necessary, as only "some degree of foaming" can be reached when it is absent.

Further, as noted by the Amendment filed July 14, 2005, the gist of the presently claimed invention is in that there are disclosed foamed molded articles formed by CTFE-based polymer compositions having "improved electrical insulation properties" (specification, page 2, first paragraph). The specification further notes that "[a]n essential characteristic of the invention compositions is that the compositions are foamable without using known foaming agents of the prior art such" (specification, page 7, last paragraph).

In the present specification, page 3, second and third paragraphs, there are described drawbacks of the known foaming agents with respect to the desired electrical insulation properties of the foamed CTFE-based fluoropolymer. In fact, said traditional foaming agents give volatile products by decomposition, worsening the insulation properties of the CTFE-based copolymers. Also foaming agents in the form of inert gas have a drawback in that they need a complex and expensive equipment to guarantee uniformity of electric wire.

Applicants note that "CTFE-based copolymers" means copolymers having CTFE units in amount at least 80% by moles (see claim 1).

As previously noted, Mehan essentially deals with ethylene-chlorotrifluoroethylene (ECTFE) copolymers wherein CTFE units are in amounts between 40 and 60% (see Mehan col. 3 lines 21-22). Therefore, the amount of CTFE units in D1 is far lower than the claimed limit of at least 80% by moles.

Further, Applicant respectfully point out that Mehan explicitly states that preferably positive steps are taken to foam the composition as it is melt-extruded using a foaming agent which decomposes into a gas as the composition is extruded, and/or a gaseous foaming agent which is injected into the composition as it is being extruded (see Mehan, col. 4 lines 46-51).

Accordingly, Example 1 of Mehan uses as foaming agent perfluoro-pentane (see col. 5 lines 34-35).

Therefore, Mehan also teaches away from the present invention since the gist of the present invention is to avoid the decomposition products of any foaming agents which would cause worse electrical insulation properties of the foamed CTFE-based copolymers.

In any case, the above-discussed statement of Mehan concerning the preferred use of foaming agents for providing electrical insulation refers only to polymer compositions of Mehan where CTFE is lower than 60% and the other comonomer always is ethylene.

Instead, the present CTFE-based polymers are far different from those of Mehan as containing more than 80% by moles of CTFE units, and the other comonomer being selected from the group of amended claim 1, wherein ethylene comonomer is absent.

One of skill in the art having to solve the above technical problem (i.e. improving electrical insulation of CTFE-based copolymers by eliminating decomposition products of any foaming agents) would not have found any useful teaching in Mehan since the polymer compositions are substantially different.

In fact, foamed agents which are preferably used in Mehan are, instead, a drawback for the present case.

Further, Applicants submit that Scoggins et al. and Nakagawa et al. are not relevant, as they concern only E-CTFE copolymers and their properties, and claim 1 excludes ethylene co-monomer from the claimed copolymers with CTFE.

The June 9, 2005 Office Action asserts that it would have been obvious to choose a different polymer with expected differences in properties and substituting it in the Mehan's polymer compositions with the obvious expectation of the same properties taught by the references.

However, since no E-CTFE copolymer is concerned in the new amended claims, Applicants respectfully submit that no relevant indication can be found in Mehan even if considered in combination with Scoggins et al. and/or Nakagawa et al.

Meanwhile, Abusleme et al. merely discloses copolymers of CTFE with perfluoroalkylvinylethers (PAVE) only limiting to the polymerization process for preparing them, which is not an object of the present invention.

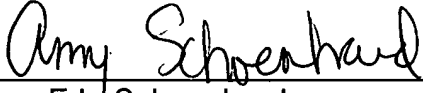
As such, Applicants submit that the cited references do not teach or suggest every element of the presently claimed invention. In particular, Applicants submit that those of skill in the art would not have found any teach or suggestion in the cited references to

solve the technical problem of improving insulating properties of foamed CTFE-based copolymers as listed in claim 1, by using only nucleating agent PTFE fine powder, then omitting any foaming agents. Therefore, Applicants respectfully submit that the presently claimed invention would not have been obvious over the cited references, even if considered in combination with each other. Accordingly, Applicants request reconsideration and withdrawal of the rejection of claims 1-24 under 35 U.S.C. § 103(a) as being unpatentable over Mehan, Scoggins et al., Nakagawa et al., and Abusleme et al.

In view of the above, it is submitted that this application is in condition for allowance. If for any reason, the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event that this paper is not considered to be timely filed, an appropriate extension of time is requested. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, referencing Docket No. 108910-00129.

Respectfully submitted,



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Enclosures: Request for Continued Examination
Petition for Extension of Time